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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,978	09/05/2002	Edward K. Krause		9022

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EXAMINER

RO, BENTSU

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 08/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,978

Applicant(s)

KRAUSE ET AL.

Examiner

Bentsu Ro

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

FIRST OFFICE ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Reynolds US Patent No. 3,590,960** in view of **Linker et al US Patent No. 4,575,003** (this reference was cited by applicant), or vice versa.

Regarding the independent claims 1, 10, 12, the reservoir and the applicator system of a windshield washer system are prior art. For example, the examiner's 1995 Ford Ranger has a windshield fluid tank which is a reservoir, and two windshield fluid spray nozzles and a control knob, both together constitute an applicator system.

It is important to note that vehicles have radiator for engine cooling.

Regarding claims 1, 10, 12, Linker et al Fig. 4 teach a radiator 94 for engine cooling. Linker et al further teach a heat exchanger device 10 (see Fig. 1) or 46 (see Fig. 5) which can be connected to the radiator hose 31 between the cut ends 28, 30 (see Fig. 1) to extract heat from the radiator coolant to heat a windshield washer fluid via a heat exchange between the engine coolant at chamber 33 and the washer fluid heating coil 32.

Thus, Linker et al do teach a heat transfer system between the engine coolant and the windshield washer fluid.

Regarding claims 1, 10, 12, Linker et al do not teach a heat transfer system between a vehicle braking system and a windshield washer fluid, or between a vehicle braking system and the engine coolant (because the engine coolant heats the windshield fluid).

However, a heat transfer system between a vehicle braking system and the engine coolant is taught by Reynolds.

Reynolds Fig. 2 shows a vehicle radiator 20 and a vehicle brake cooling system. The vehicle brake cooling system includes, among others, a heat exchanger 18 for extracting heat generated by vehicle braking system into the radiator coolant.

In view of the foregoing, it would have been obvious to either:

- insert a heat exchange device 10 or 46 of Linker et al into the radiator hose line of Reynolds or
- add a brake cooling system of Reynolds into the Linker et al Fig. 4 engine cooling system

so that the heat generated by a braking system can be used to heat the windshield fluid.

Why ??? If a vehicle is frequently stopped, or if a vehicle is mostly driven in an up-hill/down-hill road, it would have been obvious to a skilled person in the art to add a brake cooling system of Reynolds to the Linker et al vehicle so that the vehicle braking system can be cooled and will not be damaged by overheated.

Alternatively, if a vehicle is driven at a sub-zero temperature, it would have been obvious to a skilled person in the art to insert a heat exchange device of Linker et al to the Reynolds vehicle so that the windshield fluid will not be frozen.

Two very important things that the examiner must mention is that (1) "using thermal energy to heat windshield fluid" is prior art and (2) the source of the thermal energy is immaterial. The thermal energy source can be from electricity (US Patent No. 5,354,965), from vehicle exhaust pipe (US Patent No. 4,832,262), from heat generated by a motor (US Patent No. 6,281,649), or even from sun.

The independent claims 1, 10, 12 are claiming a basic concept of using braking heat to warm the windshield fluid. There is no specific structure in the claims other than the prior art of windshield system.

Although no prior teaches such a combination concept, however, cooling a braking system and heating a windshield fluid are all prior art. Further, heating source for the windshield fluid is immaterial. In view of the foregoing, one person skilled in the art and knowing the basic concept of thermal energy will immediately recognize that the thermal energy of a braking system can be used alone or along with engine heat to heat a windshield fluid.

The subject matters of claims 2-4 are prior art of a windshield wiper system. The subject matters of claims 5, 6 are prior art of a frictional braking system. The subject matters of claims 7, 8 are prior art of a motor regenerative braking system. Detail discussions are omitted.

Claims 9, 11, 13 are met by Linker et al.

3. The independent claims will be allowable if applicant specifically sets forth the limitation of Fig. 1 structure including all elements shown in Fig. 1.

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4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Any inquiry concerning this communication should be directed to Bentsu Ro at telephone number 703 308-3656.

August 1, 2003


Bentsu Ro
Primary Examiner